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Frederic Hayem

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MCANDREWS HELD & MALLOY, LTD  
500 WEST MADISON STREET  
SUITE 3400  
CHICAGO, IL 60661

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



### **DETAILED ACTION**

1. This action is in response to applicant's amendment filed on August 28, 2008. Claims 1-43 are still pending in the present application. **This Action is made FINAL.**

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 6, 7, 13, 16, 25, 26 32, 36 41 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 6, 7, 13, 16, 25, 32, 36 41 and 42 recite the limitation "additional timer value". There is insufficient explanation of how the additional timer value pertains to the second wireless communication network. There is no mention of "additional timer value" in the specification, let alone any explanation of how the "additional timer value" pertains to the second wireless communication network.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 8-12, 14-18, 20-24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Jarvis (US 5,918,040).

Referring to claim 1, Neumann discloses a multi-mode wireless communication device (abstract, and paragraph 4), comprising

a host baseband processor configured to operate in accordance with a first wireless communications protocol of a first wireless communications system (figures 2-8B, paragraphs 19-21, “first and second baseband processors”, “GSM”, “TDMA”),

and a baseband co-processor configured to operate in accordance with a second wireless communications protocol of a second wireless communications system (figures 2-8B, paragraphs 19-21, 38, 34, 30, 25, “first and second baseband processors”, “GSM”, “TDMA”).

Neumann does not specifically disclose the host baseband processor enabling timing synchronization between the first and second wireless communication systems on the basis of timing information transferred to the host baseband processor from the baseband co-processor as claimed.

Jarvis discloses a processor enabling timing synchronization between two network systems on the basis of timing information sent from another processor (Figures 1-5b, abstract, col. 2, lines 7-21 and 45-65, col. 3, and lines 35-67).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the device of Neumann as claimed by incorporating the teachings of Jarvis, for the purpose of providing a reliable and efficient communication system.

Referring to claim 2, the combinations of Neumann/Jarvis disclose the device of claim 1.

Neumann does not disclose the host baseband processor comprising circuitry for issuing, from the host baseband processor, a timer capture interrupt to the baseband co-processor during a predetermined timer phase of said first wireless communication system as claimed.

Jarvis discloses a processor having circuitry for issuing a timer capture interrupt to the another processor during a predetermined timer phase (Figures 1-5b, abstract, col. 2, lines 7-21 and 45-65, col. 3, and lines 35-67).

It would have been obvious to one of the ordinary skill in the art the time of invention to modify the device of Neumann as claimed by incorporating the teachings of Jarvis, for the purpose of providing a reliable and efficient communication system.

Referring to claim 3, the combinations of Neumann/Jarvis disclose the device of claim 2, and further disclose said baseband co-processor is configured to provide at least one timer value pertinent to a timing state of said second wireless communications system to said host baseband processor in response to issuance of said timer capture interrupt (Jarvis, Figures 2-5b and col. 3, lines 59-63, col. 4, lines 1-44, col. 5, lines 1-16, "master M issues to the slave S, a data packet containing a synchronization request and its current time value  $M_0$ ", " $S_0$ "), said host baseband processor enables determining of a timing difference between said first and second wireless communication systems based upon said predetermined timer phase and said at least one timer value (Jarvis, Figures 2-5b, col. 4, lines 1-45).

It would have been obvious to one of the ordinary skill in the art the time of invention to modify the device of Neumann as claimed by incorporating the teachings of Jarvis, for the purpose of providing a reliable and efficient communication system.

Referring to claim 4, the combination of Neumann/Jarvis disclose the multi-mode communications device of claim 1, and further disclose the baseband processor comprising circuitry for reading a current value of at least one timer maintained by baseband co-processor

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consistent with said second wireless communications protocol (Jarvis, Figures 1-5b, abstract, col. 2, lines 7-21 and 45-65, col. 3, and lines 35-67).

Referring to claim 5, the combination of Neumann/Jarvis disclose the device of claim 1, and further disclose host baseband processor further includes a higher-layer processing module and a modem (inherent) for interfacing with said first wireless communication system, said higher-layer processing module being operatively coupled to said modem and to a baseband interface of said baseband co-processor (Neumann, figures 2-8B, paragraphs 20-21, “master processor controls a variety of shared functions ... for example ... “display, keypad”, “GSM master processor controls audio input/output”).

Referring to claim 8, the combination of Neumann/Jarvis disclose the device of claim 1, and further disclose host baseband processor includes a higher-layer processor configured to effect higher-layer processing of information processed by said baseband co-processor (Neumann, paragraphs 20-21).

Referring to claim 9, claim 9 defines a timing synchronization method reciting features analogous to the features of the device of claim 1 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claim 9 (please see the rejection of claim 1 above).

Referring to claim 10, claim 10 defines a method reciting features analogous to the features of the device of claim 2 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claims 10 (please see the rejection of claim 2 above).

Referring to claim 11, claim 11 defines a method reciting features analogous to the features of the device of claim 3 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claims 11 (please see the rejection of claim 3 above).

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Referring to claim 12, claim 12 defines a method reciting features analogous to the features of the device of claim 4 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claim 12 (please see the rejection of claim 4 above).

Referring to claim 14, claim 14 defines a method reciting features analogous to the features of the device of claim 8 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claim 14 (please see the rejection of claim 8 above).

Referring to claim 15, Neumann discloses a method for wireless communication (Abstract, figures 2-8B), the method comprising:

a multi-mode communication device (abstract, and paragraph 4, "dual mode"), a first wireless communication system (figures 2-8B, paragraphs 21-24, "GSM network", "TDMA IS-136 network"), wherein said multi-mode communication device communicates via a first wireless protocol with said first wireless communication system (figures 2-8B abstract, and paragraph 4, 6, 9, 19-24, "first and second baseband processors", "GSM", "TDMA" "dual mode"), and said multi-mode communication device communicates via a second wireless protocol with a second wireless communication system (figures 2-8B abstract, and paragraph 4, 6, 9, 19-24, "first and second baseband processors", "GSM", "TDMA" "dual mode").

Neumann does not specifically discuss synchronization details e.g., generating a timer capture interrupt during a predetermined timing phase of a first wireless communication system, storing a timer value of at least one time pertinent to operation of the second wireless communication system in response to the timer capture interrupt; reading the timer value; and determining a timing relationship between the first and second wireless communication systems based upon the timer value in the format claimed by applicant.

Jarvis discloses generating a timer capture interrupt during a predetermined timing phase of a first communication system (Figures 2-5b and col. 3, lines 59-63, col. 4, lines 1-44, col. 5, lines 1-16, "master M issues to the slave S, a data packet containing a synchronization request and its current time value  $M_0$ " ), storing a timer value of at least one time pertinent to operation of said second wireless communication system in response to said timer capture interrupt (Figures 2-5b, col. 3, lines 64-67, col. 4, lines 1-44, col. 5, lines 1-16, " $S_0$ "); reading said timer

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value (Figures 2-5b, col. 3, lines 64-67, col. 4, lines 1-44, col. 5, lines 1-16, “compares the issued master time value”, note that comparing implies reading); and determining a timing relationship between said first and second wireless communication systems based upon said timer value (Figures 2-5b, col. 3, lines 64-67, col. 4, lines 1-44, col. 5, lines 1-16).

It would have been obvious to one of the ordinary skill in the art the time of invention to modify the device of Neumann as claimed by incorporating the teachings of Jarvis, for the purpose of providing a reliable and efficient communication system.

Referring to claim 16, the combinations of Neumann/Jarvis disclose the method of claim 15, and further disclose an additional timer value of at least one other timer pertinent to operation of the second wireless communication system in response to said timer capture interrupt; reading said additional timer value, said timing relationship being based at least in part upon said additional timer value as claimed by applicant (Jarvis, Figures 2-5b and col. 3, lines 59-63, col. 4, lines 1-44, col. 5, lines 1-16, “M<sub>0</sub>”, “S<sub>0</sub>”, “S<sub>1</sub>”, “slave S increments its timer value to a new value S<sub>1</sub>”).

It would have been an obvious design choice to modify the method of Neumann as claimed, for the purpose of providing an efficient communication method.

Referring to claim 17, the combinations of Neumann/Jarvis disclose the method of claim 15 and further disclose one or more timers being incremented pursuant to operation of the first wireless communication system, determining a timing relationship including comparing at least one value of the one or more timers with the timer value (Jarvis, Figures 2-5b, col. 3, lines 64-67, col. 4, lines 1-44, col. 5, lines 1-16).

Referring to claim 18, the combinations of Neumann/Jarvis disclose the method of claim 15, and further disclose said first wireless communications system operates in accordance with a first wireless communications protocol and said second wireless communications system



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operates in accordance with a second wireless communications protocol different from said first wireless communications protocol (Neumann, abstract, and paragraphs 2-9, TDMA, GSM).

Referring to claim 20, claim 20 defines a multi-mode wireless communication device reciting features analogous to the features of the device of claim 1 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claims 20 (please see the rejection of claim 1 above).

Referring to claim 21, claim 21 defines a multi-mode wireless communication device reciting features analogous to the features of the device of claim 2 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claims 21 (please see the rejection of claim 2 above).

Referring to claim 22, claim 22 defines a multi-mode wireless communication device reciting features analogous to the features of the device of claim 3 (as rejected above). Thus, the combinations of Neumann/Jarvis disclose all elements of claims 22 (please see the rejection of claim 3 above).

Referring to claim 23, the combination of Neumann/Jarvis discloses the multi-mode communications device of claim 21, and further disclose wherein said one or more of: said host baseband processor, said baseband co-processor and said additional circuitry comprises circuitry for reading a current value of at least one timer consistent with said second wireless communications protocol (Jarvis, Figures 1-5b, abstract, col. 2, lines 7-21 and 45-65, col. 3, and lines 35-67).

Referring to claims 24 and 27; claims 24 and 27 define a device reciting features analogous to the features of the device of claims 5 and 8 (as rejected above). Thus, the combinations of

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Neumann/Jarvis disclose all elements of claims 24 and 27 (please see the rejection of claims 5 and 8 above).

6. Claims 6, 13, 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Jarvis (US 5,918,040), and further in view of well known prior art (MPEP 2144.03).

Referring to claim 6, the combination of Neumann/Jarvis disclose the device of claim 3, and further disclose baseband co-processor including first and second registers adapted to store said at least one timer value and an additional timer value pertinent to said second wireless communications protocol (Jarvis, Figures 2-5b and col. 3, lines 59-63, col. 4, lines 1-44, col. 5, lines 1-16, "master M issues to the slave S, a data packet containing a synchronization request and its current time value  $M_0$ ", " $S_0$ ", " $S_1$ ", "slave S increments its timer value to a new value  $S_1$ ").

The combination does not specifically disclose the second wireless communication protocol comprises WCDMA.

The examiner takes official notice of the fact that WCDMA networks and protocols are well known in the art.

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the combination as claimed for the purpose of providing a robust multimode device satisfying users subscribed to WCDMA networks.

Referring to claims 13 and 25; claims 13 and 25 define a device reciting features analogous to the features of the device of claim 6 (as rejected above). Thus, the combinations of Neumann/Jarvis and well-known art disclose all elements of claims 13 and 25 (please see the rejection of claim 6 above).

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Referring to claim 19, the combination of Neumann/Jarvis discloses the method of claim 18 and further discloses said first wireless communications protocol comprises GSM (Neumann, par 21 and 33).

The combination does not specifically disclose the second wireless communication protocol comprises WCDMA.

The examiner takes official notice of the fact that WCDMA networks and protocols are well known in the art.

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the combination as claimed for the purpose of providing a robust multimode device satisfying users subscribed to WCDMA networks.

7. Claims 7 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neumann et al (U.S. Pub. No. 2002/0141441 A1), in view of Jarvis (US 5,918,040), further in view of well known prior art (MPEP 2144.03), and still further in view of Kawai (US 2002/0186754 A1).

Referring to claim 7, the combination of Neumann/Jarvis and well-known art disclose the multi-mode communications device of claim 6.

The combination does not specifically disclose one timer value corresponding to a slot counter and the additional timer value corresponding to a sample counter, as claimed.

Kawai discloses a slot counter for counting in synchronization with slot timing and a sample counter for counting each sample time and adjusting the count value (paragraphs 32 and 59).

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the combination as claimed, for the purpose of providing a more efficient communication device.

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Referring to claim 26, claim 26 defines a device reciting features analogous to the features of the device of claim 7 (as rejected above). Thus, the combinations of Neumann/Jarvis/Kawai and well known art disclose all elements of claim 26 (please see the rejection of claim 7 above).

8. Claims 28-43 are rejected for the same reasons/arguments that claims 1-27 were rejected since claims 28-43 have the same patentable subject matter as those of claims 1-27.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-43 have been considered but are they are not persuasive.

In response to arguments with respect to rejection of claims under 35 USC 112, the applicant refers to Figs. 10-11 and Page 19-lines 24 to page 20, line 27 of the present specification. The examiner respectfully disagrees. The above mentioned portions of the specification fail to recite the limitation "additional timer value." The specification fails to describe how the additional timer value pertains to the second wireless communication network. There is no mention of "additional timer value" in the specification, let alone any explanation of how the "additional timer value" pertains to the second wireless communication network. A person of ordinary skill in the art would not be able to derive the specification the relationship of an additional timer value to a wireless communication network.

In response to applicant's arguments with respect to rejection of claims under 35 USC 103, the applicant basically alleges that the cited references do not disclose "said host baseband processor enables timing synchronization between said first and second wireless communications systems on the basis of timing information transferred to said host baseband processor from said

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baseband co-processor,” the examiner respectfully disagrees. Jarvis clearly shows enabling of timing synchronization between two network system on the basis of timing information sent from one of the processor. (Figures 1-5b, abstract, col. 2, lines 7-21 and 45-65, col. 3, and lines 35-67). Further, the language of the claim is very broad. Jarvis shows timing synchronization between processors. When timing synchronization takes place between two processor, both processors must allow the timing synchronization to take place. Thus implies that both processor must enable timing synchronization. Thus, Jarvis combined with Neumann discloses the above limitation.

With respect to claim 15, applicant argues that the cited references do not disclose generating within a multi-mode communication device, a timer capture interrupt during a predetermined timing phase. The examiner respectfully disagrees. A person of ordinary skill in the art would know how the generating of timing capture would be applied to the multimode communication device of Neumann/Jarvis. Therefore, the rejection of claim 15 is maintained. Rejection of claims 4-7, 8, 10-12, 13-14, 16-19, 21-24-27 are maintained for the reason/arguments mentioned above. Please see the office action dated April 28, 2008 for a better understanding of examiner's reasons for rejection.

### ***Conclusion***

1. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper, can be reached at (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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**/VINCENT P. HARPER/**

**Supervisory Patent Examiner, Art Unit 2617**